

03030313 03030313

1. A resin composition for which comprises: (1) a major absorbing polymer compound represented by the following formula (I), and (2) a cationic photopolymerization initiator.

$$\text{---} \left[ \text{AX}^1 \text{AR}^1 \right] \text{---} \quad (\text{I})$$

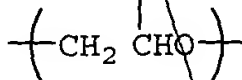
in the formula (I), "A" consists of the following group:

$$\begin{array}{c} \text{---} (\text{CH}_2 \text{CH}_2 \text{O}) \text{---} \\ | \\ \text{Y} \\ | \\ (\text{CH}_2 \text{CHO}) \text{---} \end{array}$$

wherein the group Y is a divalent group, and the groups m and n are integers of 1 or more, with a manner of linkage the following:

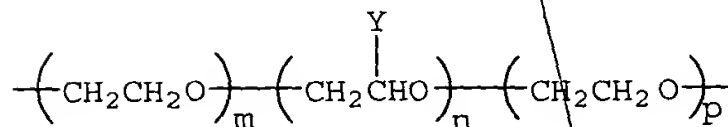
$$\text{---} (\text{CH}_2 \text{CH}_2 \text{O}) \text{---}_m \text{---} (\text{CH}_2 \overset{\text{Y}}{\underset{|}{\text{CHO}}} \text{---})_n \text{---} (\text{CH}_2 \text{CH}_2 \text{O}) \text{---}$$


in the formula (I), "A" consists of:



and

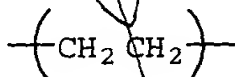
with a manner of linkage therebetween  
being:



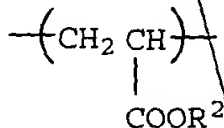
wherein m, n, and p represent integer numbers greater than or equal to 1. Additionally, a weight ratio that is calculated on the basis of each of the recurrence numbers m, n, and p is predetermined to be:  $44 \times (m + p) / (\text{the molecular weight of the unit of the alkylene oxide having more than or equal to four carbon atoms}) \times n = 94/6 - 80/20$ , while the weight ratio that is calculated on the basis of each of the recurrence numbers m and p,  $p / (m + p)$  should be predetermined to be more than or equal to 50 percent by weight. Y represents hydrocarbon group having more than or equal to two carbon atoms. Further, X<sup>1</sup> represents a residue of an organic compound having two active hydrogen groups, and R<sup>1</sup> represents a residue of a dicarboxylic acid compound.

1940515-032901

2. The resin composition for ink jet recording sheet according to claim 1, wherein the cationic polymer compound (2) is a cationic polymer compound having a weight average molecular weight ranging between 1,000 and 50,000 with a linear and irregular arrangement, comprising 65 mol% to 99 mol% of an ethylene structural unit represented by the following formula (II), less than or equal to 15 mol% of an acrylate structural unit represented by the following formula (III), and 1 mol% to 35 mol% of an acrylamide structural unit represented by the following formula (IV):



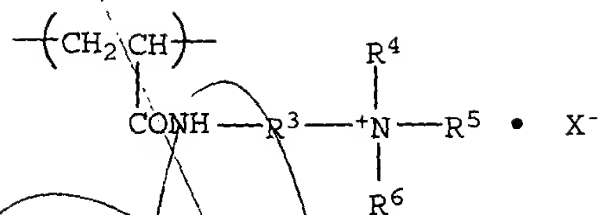
(II)



(III)

wherein  $\text{R}^2$  represents an alkyl group having 1-4 carbon atoms

0306515-032901

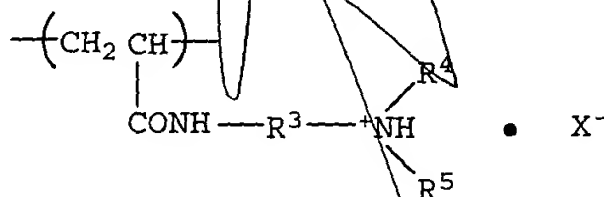


(IV)

wherein R<sup>3</sup> represents an alkylene group having 2-8 carbon atoms; R<sup>4</sup> and R<sup>5</sup>, respectively, represent an alkyl group having 1-4 carbon atoms; R<sup>6</sup> represents an alkyl group having 1-12 carbon atoms, an aryl alkyl group having 7-12 carbon atoms, or an alicyclic alkyl group having 5-12 carbon atoms; and X<sup>-</sup> represents a halogen ion, CH<sub>3</sub>OSO<sub>3</sub><sup>-</sup> or C<sub>2</sub>H<sub>5</sub>OSO<sub>3</sub><sup>-</sup>.

FOUO "G. 3333"

3. The resin composition for ink jet recording sheet according to claim 1, wherein the cationic polymer compound (2) is a cationic polymer compound having a weight average molecular weight ranging between 1,000 and 50,000 with a linear and irregular arrangement, comprising 65 mol% to 99 mol% of an ethylene structural unit represented by the above formula (II), less than or equal to 15 mol% of an acrylate structural unit represented by the above formula (III), and 1 mol% to 35 mol% of an acrylamide structural unit represented by the following formula (V):



(V)

wherein  $\text{R}^3$  represents an alkylene group having 2-8 carbon atoms;  $\text{R}^4$  and  $\text{R}^5$ , respectively, represent an alkyl group having 1-4 carbon atoms; and  $\text{X}^-$  represents a halogen ion,  $\text{CH}_3\text{OSO}_3^-$  or  $\text{C}_2\text{H}_5\text{OSO}_3^-$ .

4. The resin composition for ink jet recording sheet according to any of claims 1 to 3, wherein mixing ratio by weight of the water-absorbing polymer compound (1) and the cationic polymer compound (2) is ranging between 50/50 and 99/1.

5. The resin composition for ink jet recording sheet according to any of claims 1 to 4, further comprising (3) a cationic or nonionic surface active agent.

6. The resin composition for ink jet recording sheet according to claim 5, wherein an amount of the cationic or nonionic surface active agent (3) to be contained is from 1% by weight to 10% by weight.

7. An ink jet recording sheet comprising a substrate layer and an ink-receiving layer that is overlaid said substrate layer, wherein said ink-receiving layer comprises the resin composition according to any of claims 1 to 6.

8. A method for ink jet recording in which the ink jet recording sheet according to claim 7 is used, comprising the step of adsorbing small droplets of water-based color ink through discharging to the ink-receiving layer.

9. A method for producing an ink jet recording sheet comprising the steps of extruding a resin composition that constitutes a substrate layer into a sheet form, while extruding the resin composition for ink jet recording sheet according to any of claims 1 to 6 into a sheet form concurrently with the substrate layer, and forming layers from both of said resin compositions.

ADD 7  
B5

ADD 7  
B5

030615-032904